

The above diagram shows the packing method for the S2

Should the mixer be repacked for shipment please ensure that it is packed as shown. Remember to enclose the mixer in the heavy duty polythene bag before fitting the polystyrene end caps. The power supply unit should be placed in the cardboard sleeve provided.

Please include this packing diagram in the polythene bag for future reference.

S2 MIXING CONSOLE - TECHNICAL MANUAL

This is the TECHNICAL MANUAL for the Thatched Cottage Audio S2 168 mixing console.

Included is the full set of drawings and information required to provide technical service back-up for this product.

For user information please refer to the S2 OWNER MANUAL supplied by Thatched Cottage Audio.

For information on the S2 EX8 expander unit please refer to the S2 EX8 TECHNICAL MANUAL (publication AP0121).

The S2 is designed and manufactured by ALLEN & HEATH in England for Thatched Cottage Audio.

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Allen & Heath Publication AP0120 issue 1 Sept.1991 CD

L-R FRER - AIDHS

The **S2** is an ultra compact professional recording mixer designed specifically to operate with the latest generation of multitrack tape machines and studio equipment.

Unheard of in its price range, the **S2** includes full on board MIDI mute automation based on the most advanced and user-friendly **V4** system. This provides automation of all channel, monitor and effects return mutes giving a creative freedom unique in mixers of this class.

The in-line format and versatile routing facilities allow up to 24-track recording and mixdown to two 2-track mastering machines without the need for re-patching.

The 16 channel S2 is easily expandable to a full 24 channels by adding on the EX8 extender unit.

Four dedicated stereo effects returns and the two signal paths per channel provide a maximum of 40 or 56 inputs with EQ available for mixdown.

The compact size and comprehensive facilities together with its superior audio performance, rugged yet stylish engineering, and low cost make the S2 the ideal choice for the small studio, mobile, or home recording situation.

KEY FEATURES:

Full V4 MIDI automation of channel, monitor and effects return mutes, using silent FET switching,

16-8-2 or 24-8-2 in-line formats,

8 groups, normalled to channel outputs 1-8, 9-16, 17-24,

Up to 56 inputs with EQ available for mixdown,

In-line monitoring,

Channel direct-to-tape switches allowing up to 24 tracks to be recorded simultaneously,

Separate EQ for channel and monitor paths, with EQ on switch,

6 aux busses providing effects and cue sends,

Dedicated stereo cue monitor output,

4 stereo effects returns with EQ, cue sends, and routing to all outputs,

Monitoring and record source switching for two 2-track mastering machines,

Dedicated stereo control room monitor output with switching for 2 pairs of loudspeakers,

LED bargraph metering, and separate channel peak LEDs,

Inserts on channels, groups and stereo mix,

Comprehensive monitor and talkback facilities,

2 frequency line-up oscillator,

Superior audio performance,

100mm faders and quality components used throughout, Engineered for reliability.

16 channel version may be expanded to 24 channels.

CONSTRUCTION:

Single steel front panel and base plate with medite side trims.

Large extruded aluminium armrest and rear plate.

Individual circuit assemblies connected by removable IDC harnesses for easy service access.

Separate MPS9 external power supply unit.

EX8 expander attaches on right hand side of 168 console to form a single piece 24 channel unit.

SPECIFICATION:

Multitrack in/out -10dBV OPERATING LEVELS:

2-track in/out -10dBV Aux, cue out etc. 0dBu

Inserts OdBu

FREQUENCY RESPONSE: 20Hz to 20kHz + 0dB, -1dB

Microphone EIN -127 dBu source = 150 ohm NOISE:

LR Mix noise -78 dBu ref 0VU Group mix noise -80 dBu ref 0VU

CROSSTALK: better than -80dB at 1kHz

THD typically less than 0.01% at 1kHz DISTORTION:

less than 0.02% at 10kHz

GAIN: Mic input variable from +10dB to +68dB

Line input variable from -10dB to +20dB further +10dB available at each fader

MAXIMUM OUTPUT LEVEL: +21dBu

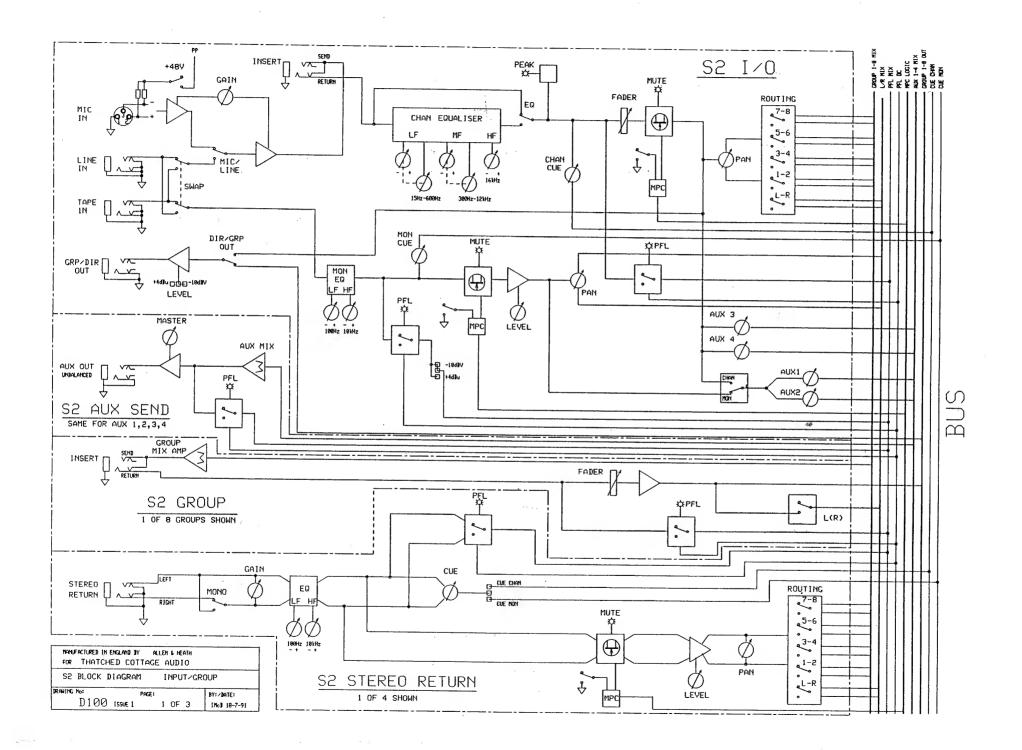
SIZE: 16-8 766mm x 725mm x 130mm

> 24-8 $1036mm \times 725mm \times 130mm$ (expanded)

WEIGHT 16-8 Console 24 kg

> MPS9 power supply 3 kg Packed with MPS9

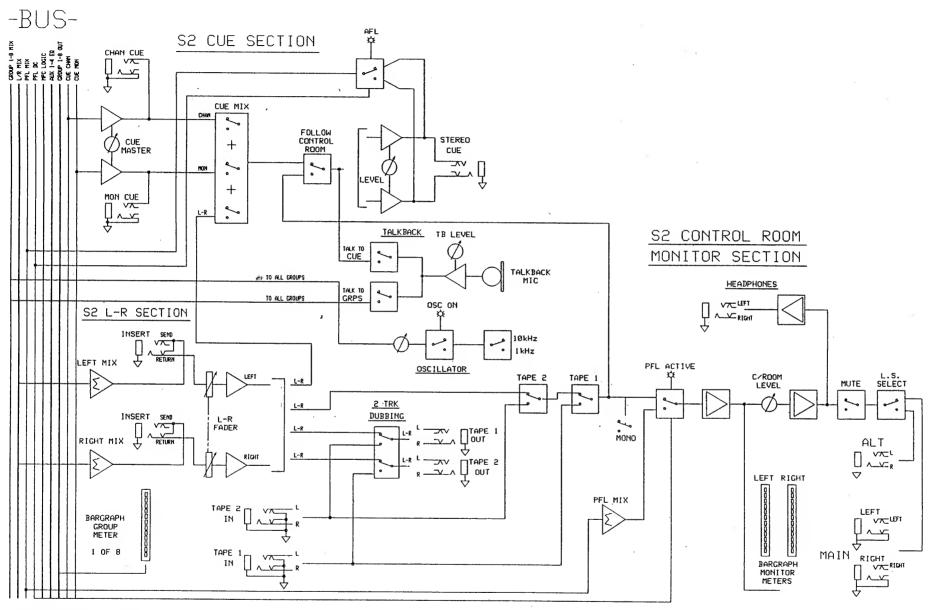
31 kg



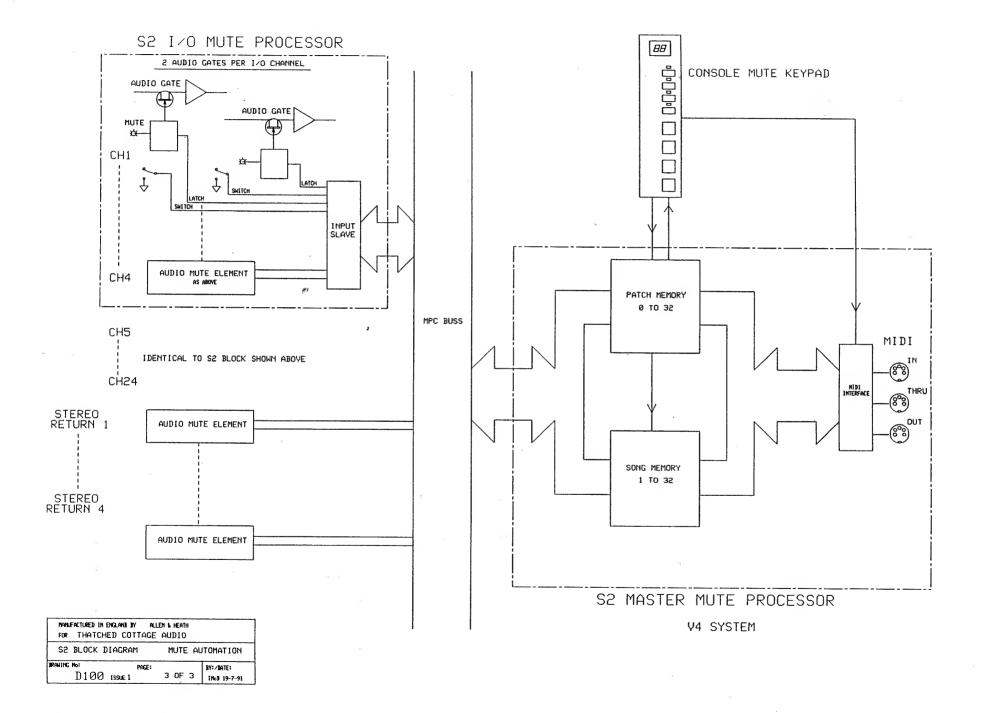
CHANNEL (168 console and EX8 extender): GROUP: MASTER: Microphone in - electronically balanced XLR Aux out - unbalanced 1/4" lack Control room main output L&R - unbalanced 1/4" jack pin 2 = + Stereo return - 1/4" jack tip = left/mono Control room alt output - 1/4" jack tip = L Line in - unbalanced 1/4" jack ring = right ring = R Group insert - 1/4" jack tip = send Tape in and channel out - unbalanced 1/4" jack ring = return 2-track tape in (x2) - 1/4" jack tip = L Set for -10dBv operating level Group bargraph meter - 10 bar rectangular LED 2-track tape out (x2) - 1/4" jack tip = L Insert - 1/4" jack, tip = send, ring = return ring = R Aux send master pot +48V phantom power switch L&R inserts - 1/4" jack tip = send Aux master PFL switch + LED ring = return CHANNEL PATH: Mic/line source switch STEREO RETURN: Mono source switch Stereo cue out - 1/4" jack tip = L gain pot - wide ranging ring = R Mic = +10 to +68 dBGain pot - -4dB to +14dB gain Line = -10 to +20 dB Chan cue out - unbalanced 1/4" jack HF +/- pot 14dB 10kHz shelf Aux 1 to 4 send pots (post-fader) LF +/- pot 14dB 100Hz shelf Mon cue out - unbalanced 1/4" jack Chan cue send pot (pre-fader) Chan cue send (pre-level) DC input - 5pin XLR - connect to MPS9 power supply HF +/- pot 14dB 16kHz shelf Routing switches to Oscillator: 10kHz/1kHz switch 10dB at 10kHz 1-2 3-4 Level pot MF +/- pot 14dB 5-6 MF sweep pot 300Hz to 12kHz 7-8 Osc to groups switch Pan pot LF +/- pot 14dB Cue master pot - controls both chan and mon cue LF sweep pot 15Hz to 600Hz Level pot to L-R STEREO CUE: Source switches - mon cue EQ on switch PFL switch + LED chan cue L-R Peak LED for Channel path Mute switch + LED monitor source (tape 1/2, L-R) Pan pot Level pot GROUP SECTION: L-R switch (sub-group) PFL switch + LED PFL switch + LED PFL switch + LED Mute switch + LED 2-TRACK: Tape 1 source switch - L-R or tape 2 Tape 2 source switch - L-R or tape 1 100mm fader - 10dB gain available Direct/group output switch CONTROL ROOM: Source switches - all up = L-R Routing switches to L-R Tape 1 1-2 Tape 2 3-4 5-6 PFL active LED 100mm Fader - 10dB gain available Mono switch Alt/main speaker select switch MONITOR PATH: Tape/line source reverse switch MUTE PROCESSOR: Level pot mon cue send (pre-fader) MIDI in, out and thru sockets - 5pin DIN Mute switch HF +/- 14dB 10kHz shelf 2-digit 7-segment display 10dB at 8kHz TALKBACK: Level pot Shift switch + LED LF +/- 14dB 100Hz shelf Talk to cue switch (non-latching) Toggle switch + LED 10dB at 100Hz record switch + LED Talk to groups switch (non-latching) clear switch + LED Level pot to L-R 100mm L-R fader - 10dB gain available 4.1 Update switch Pan pot Headphones jack - 1/4" jack tip = L Up switch ring = R PFL switch + LED Down switch Mute switch + LED

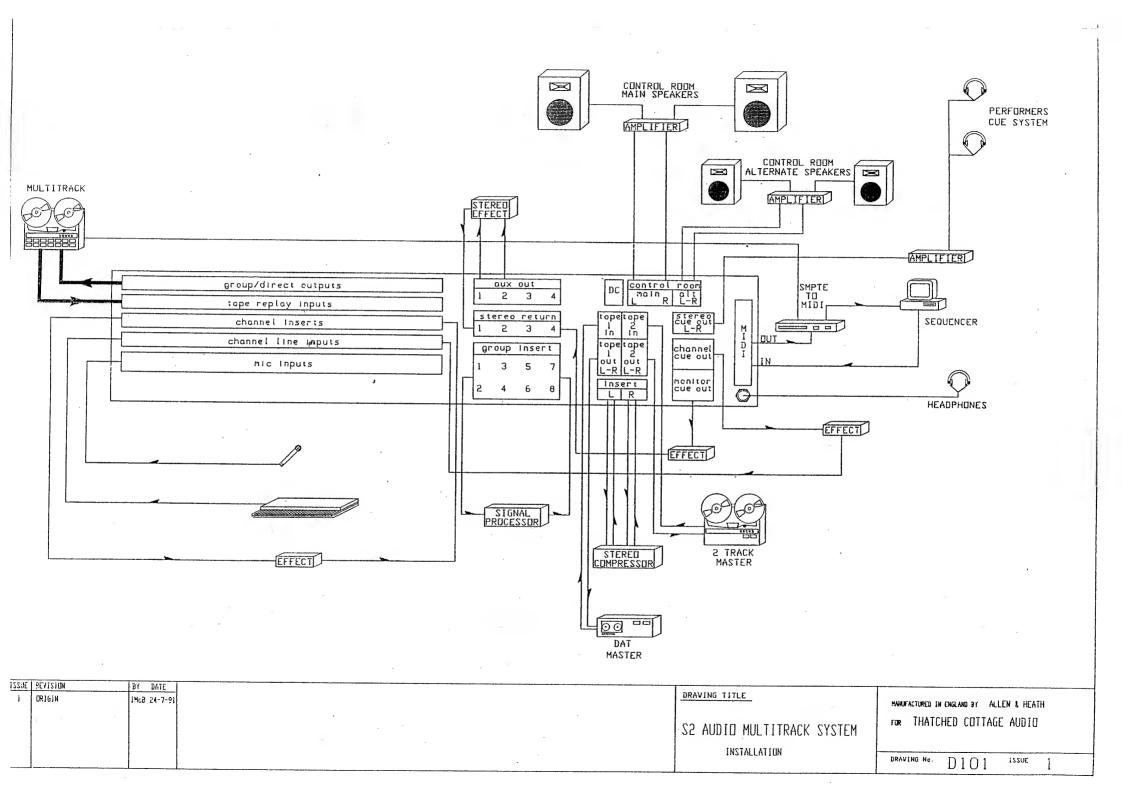
Recall switch

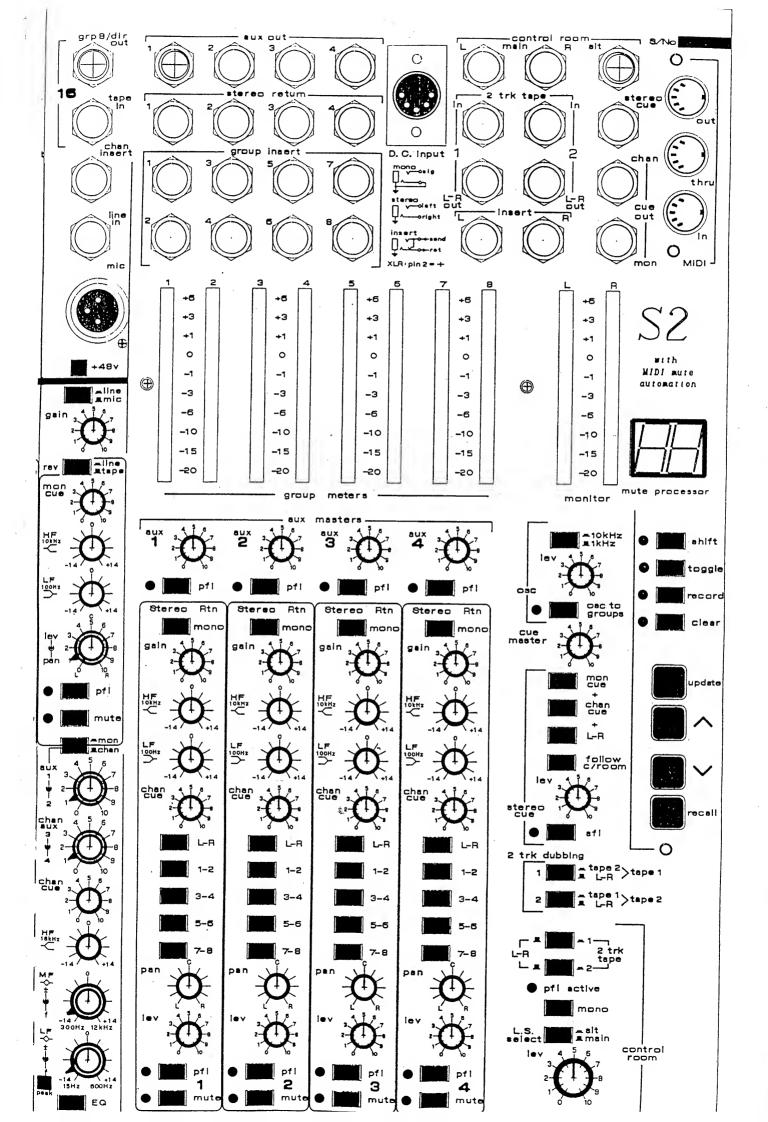
Mon/chan Aux 1/2 select switch

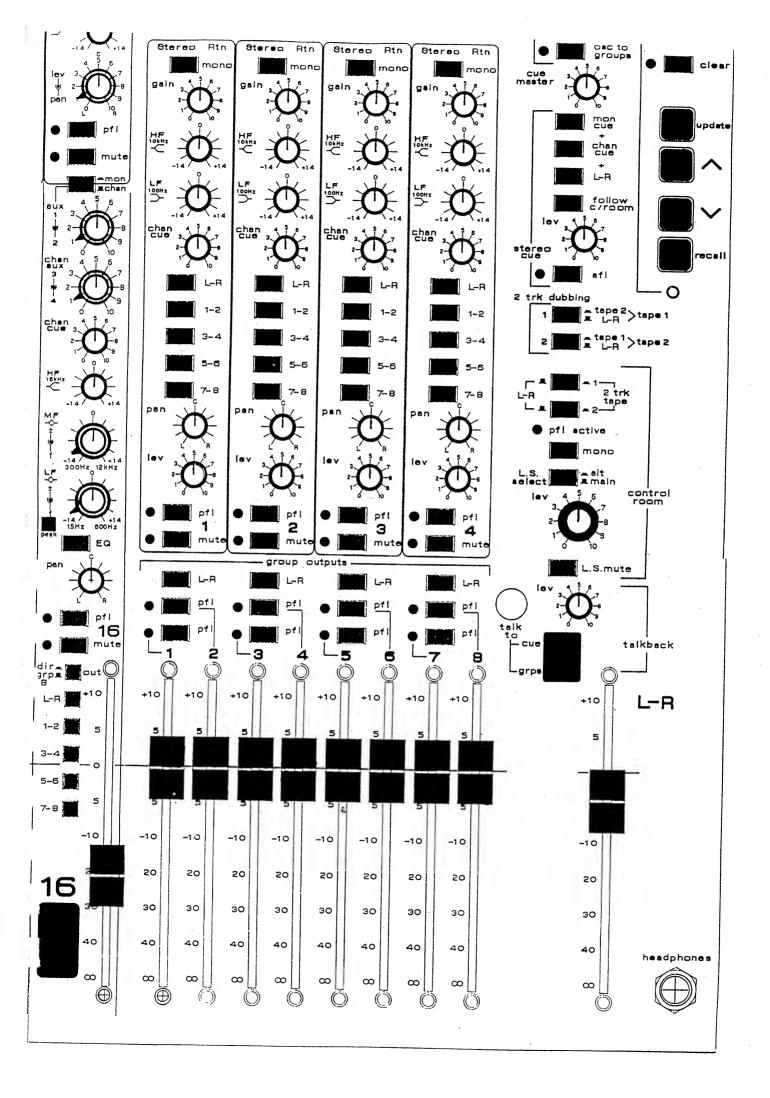


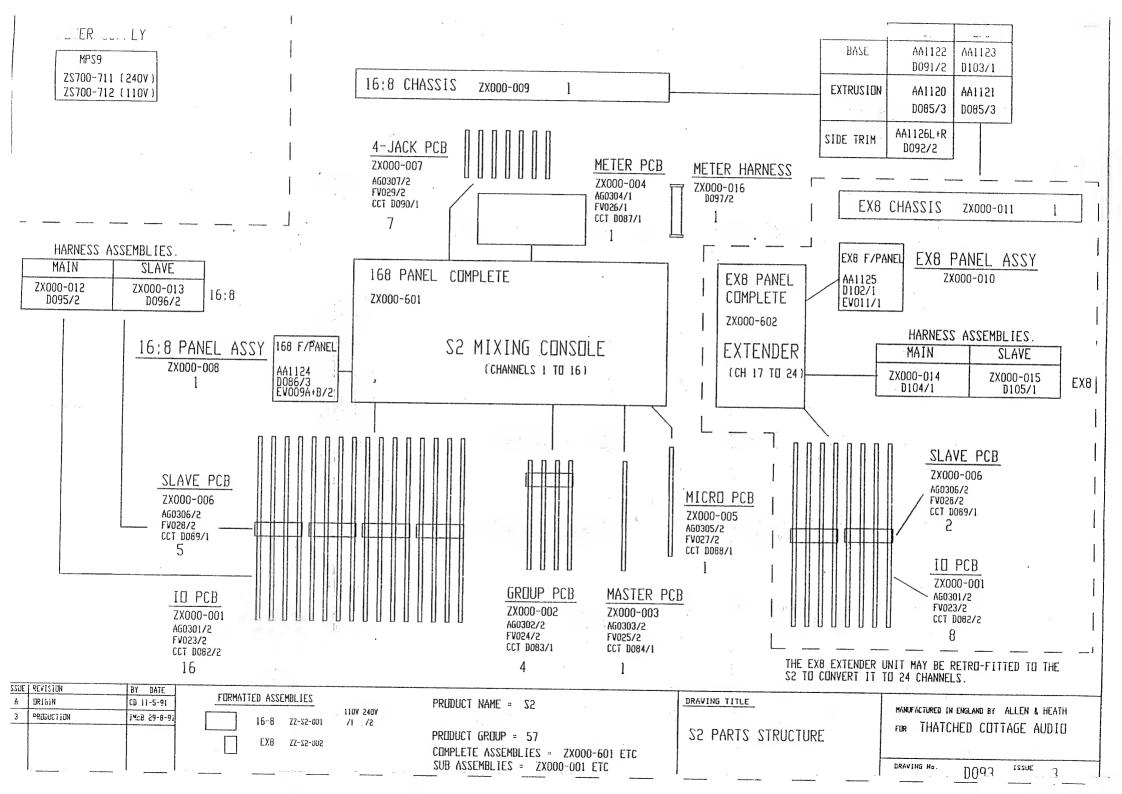
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S2 BLDCK DIAGRAM L-R & MASTER							
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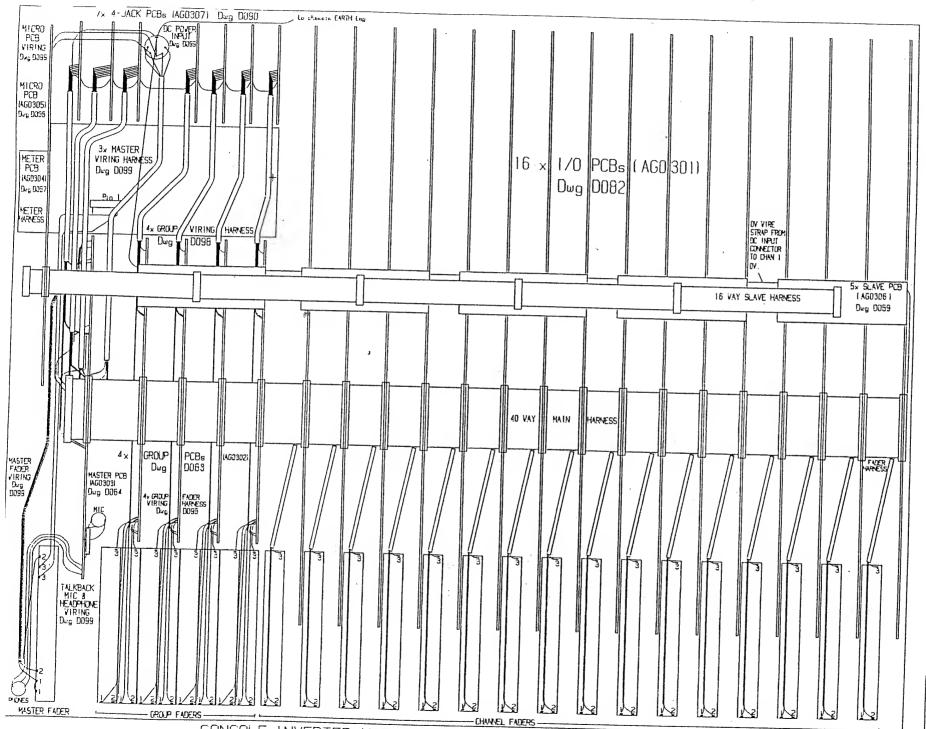












S2 INTERNAL LAYOUT

Dwg. D106 Issue 1

By: IMcB 10-9-91

CONSOLE INVERTED WITH CHASSIS BASE REMOVED.

82 SERVICE ACCESS

Normal operation of the S2 mixing console does not require internal access for option setting or adjustment. Internal assignments and adjustments are preset by the factory or carried out by an appointed service agent.

ALL SERVICE WORK THAT REQUIRES REMOVAL OF THE BASE SHOULD BE REFERRED TO QUALIFIED SERVICE PERSONNEL ONLY.

PROCEDURE:

- 1. Disconnect the power supply and all leads from the console.
- Place the console upside down on a suitable flat surface. Prevent damage to the knobs and control panel.
- 3. Remove the front and rear base screws and lift off the base. It may be necessary to loosen the M6 side trim screws slightly first.
- 4. It should not normally be necessary to remove the side trim or front/rear extrusions fully. Access to all circuit assemblies is possible with these items in place.
- 5. Carry out the work required.
- 6. Check accuracy of work and connector alignment before replacing the base. Remove all solder debris etc. Ensure correct seating of the circuit assemblies and wiring harnesses.
- 7. Refit the base and tighten the side trim screws.
- 8. Reconnect the power and leads and test for correct operation.

PART OF S2 TECHNICAL MANUAL

by CD 9 Sept 91

S2 HIGH LEVEL MULTITRACK OPTION

The S2 is factory preset for operation with low level (-10dBV) multitrack tape machines.

It may be internally reconfigured for operation with high level (+4dBu) multitrack tape machines.

Two link changes on each of the channel (IO) pcbs is required. This sets the GRP/DIR OUT and MONITOR PFL sensitivity for high level.

This option is shown in BLOCK DIAGRAM D100 page 1.

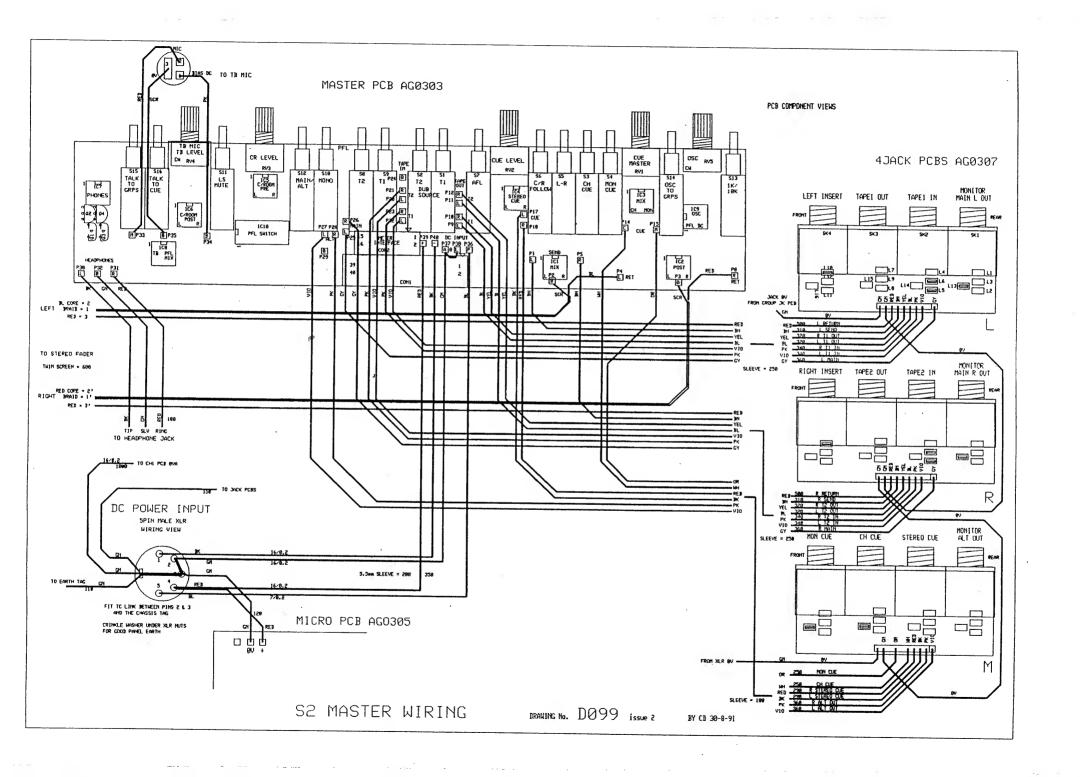
The circuit details and link positions are shown in IO CIRCUIT DIAGRAM DO82 and PCB LAYOUT FW023D.

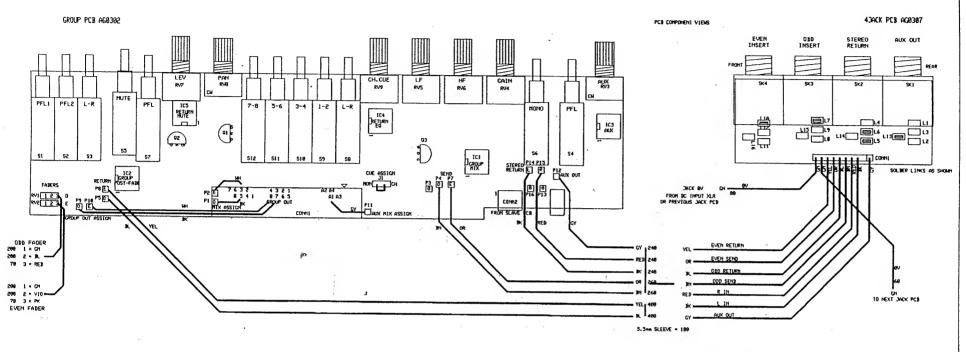
PROCEDURE:

- 1. Place mixer upside down on flat surface.
- Remove front and rear screws and remove base.
- 3. Unplug main 40way IDC harness and identify option links J3 and J4.
- 4. Desolder and remove PFL link J3.
- 5. Resolder OUTPUT link J4 to HI position.
- 6. Plug on harness and refit base.
- 7. Test for correct operation.

NOTES:

- 1. Different settings of the CHANNEL GAIN and MONITOR LEVEL controls are required. Adjust for correct level using PFL.
- 2. This option affects only the multitrack tape level. The 2-track tape connection is set for low level (-10dBV) and may not be changed. Most 2-track machines have sensitivity controls to allow operation with low level equipment.
- Carry out change to EX8 expander channels if required ie. for 24 track multitrack machines.
- 4. THIS WORK SHOULD ONLY BE CARRIED OUT BY QUALIFIED SERVICE PERSONNEL.

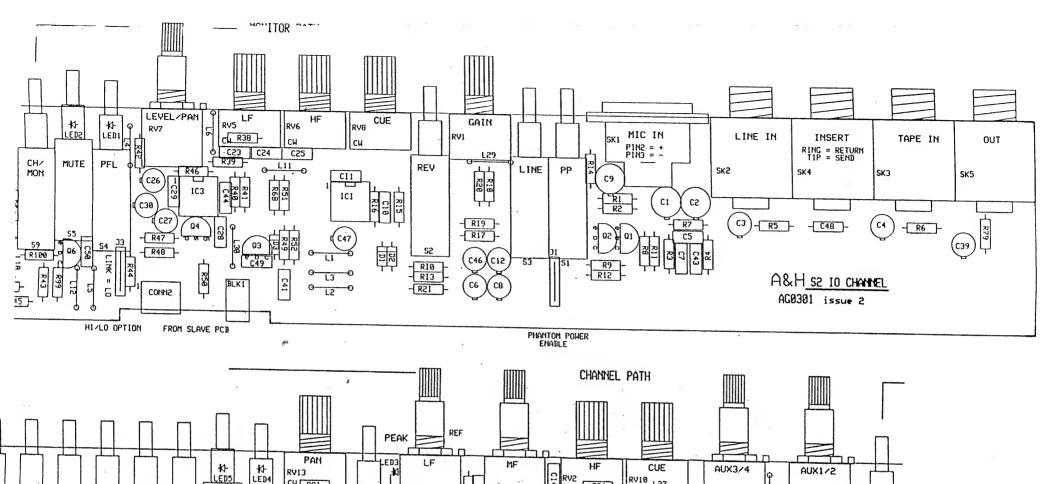


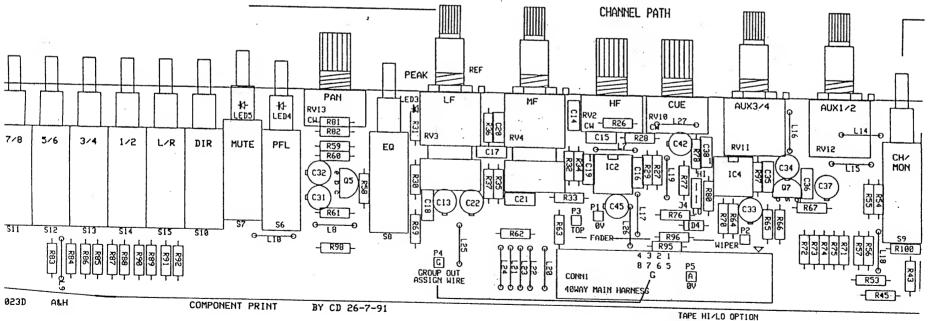


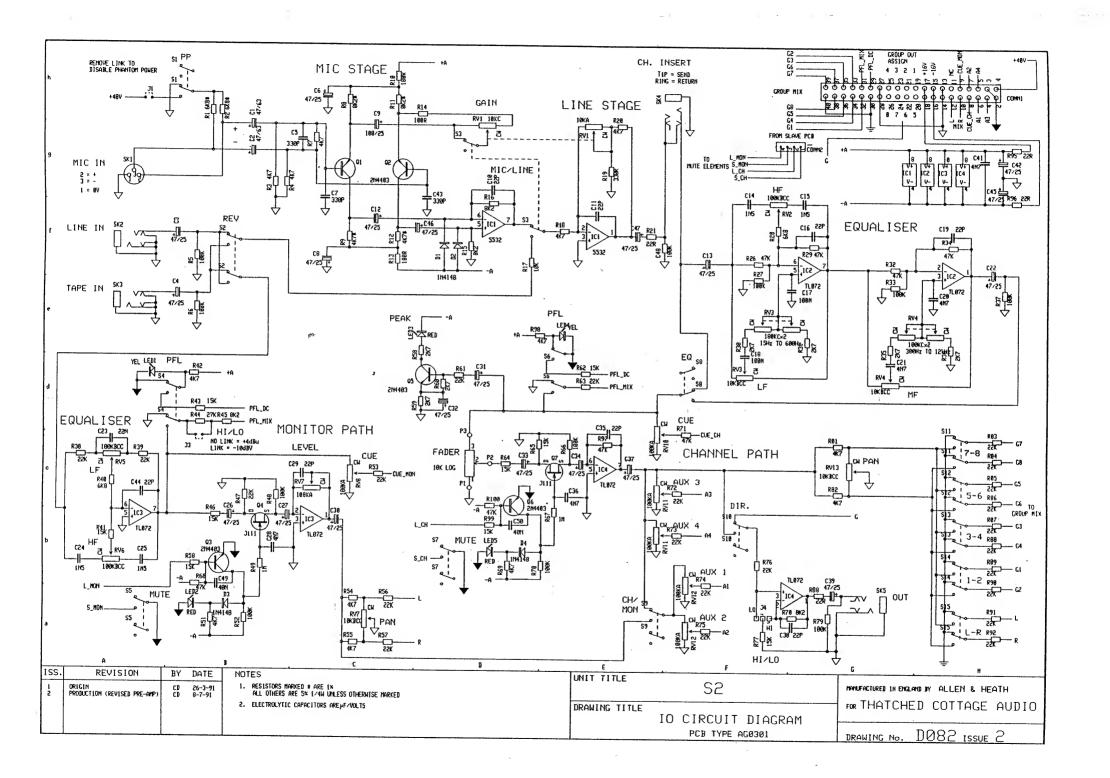
S2 GROUP WIRING HARNESS

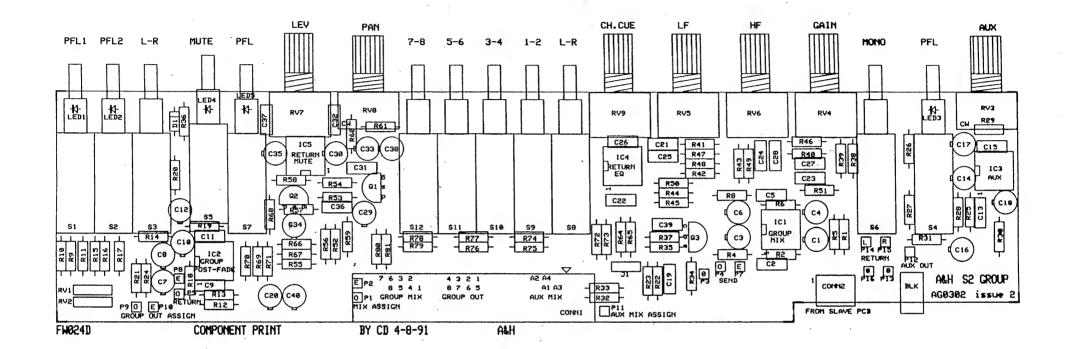
DRAWING No. D098 issue 2

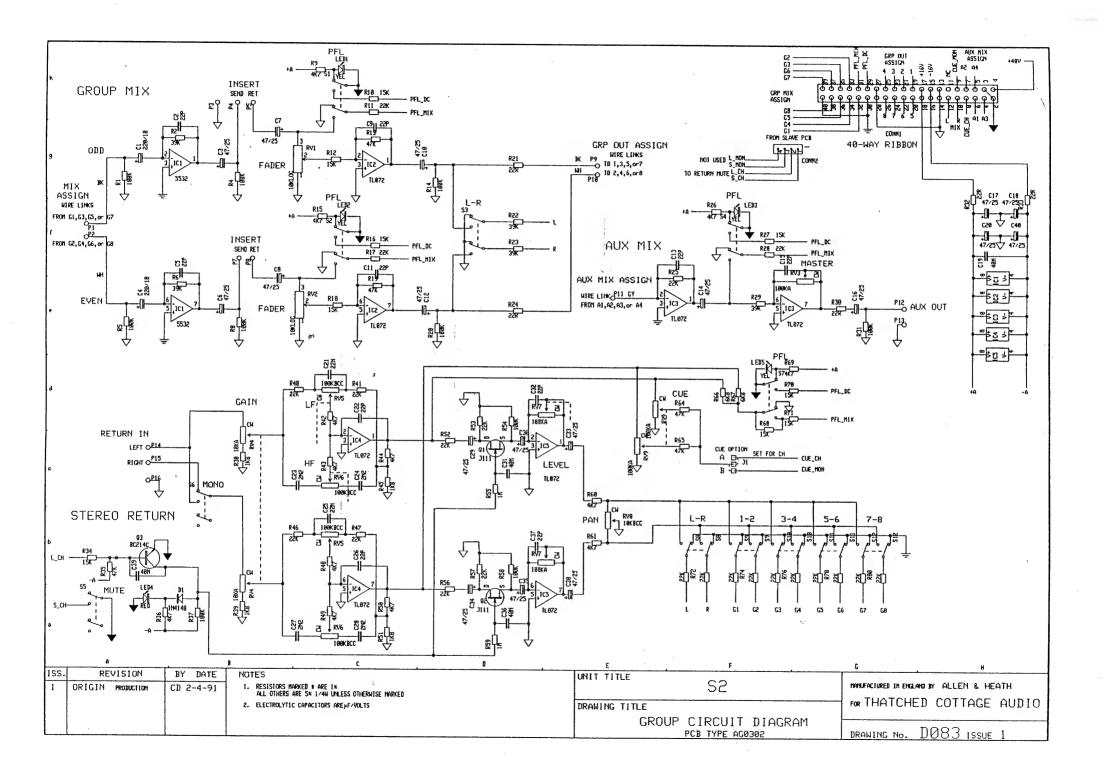
BY CD 30-8-91

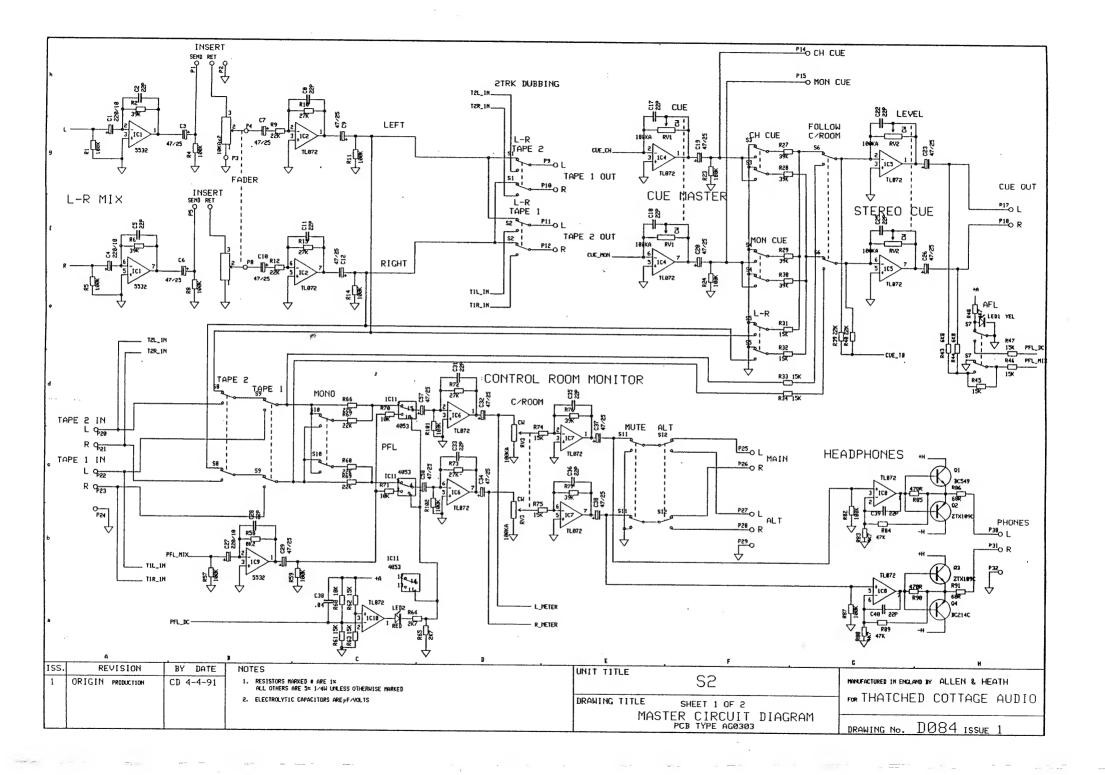


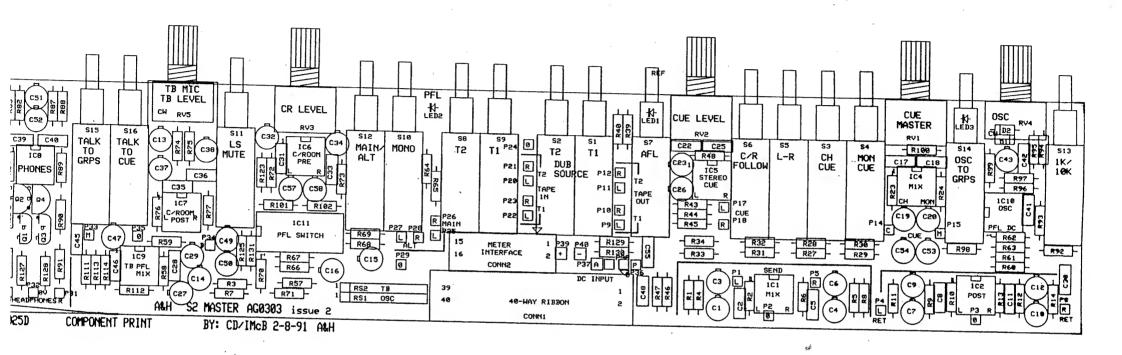


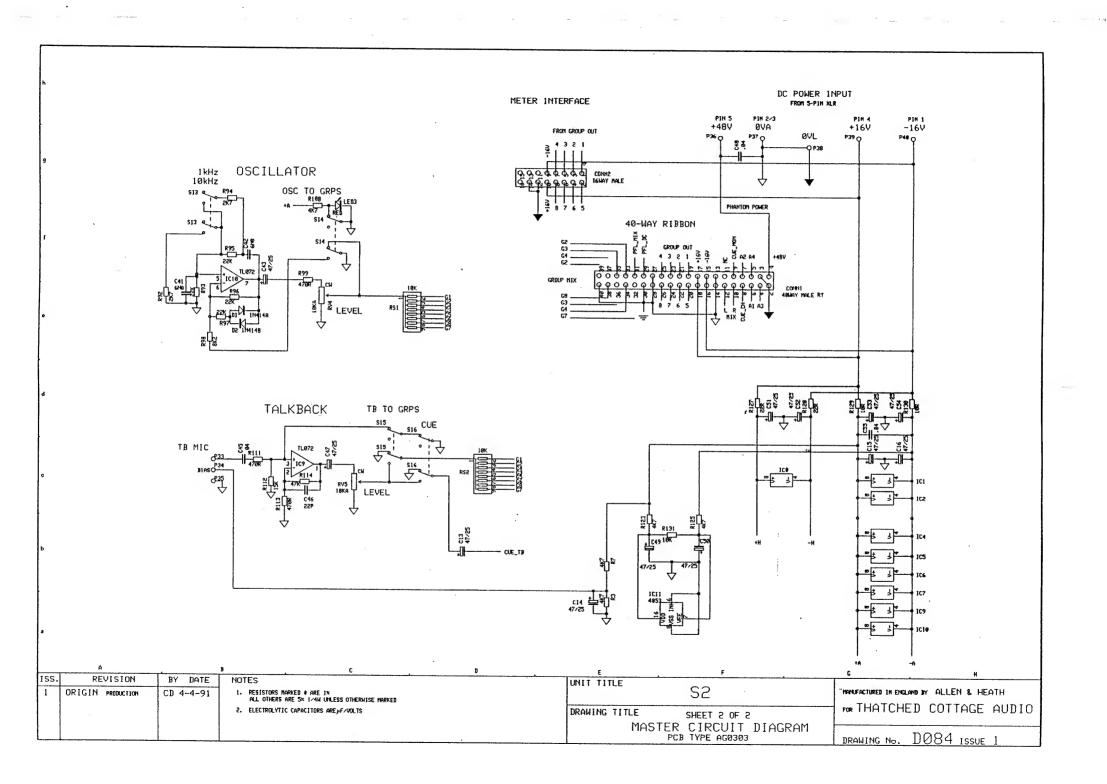


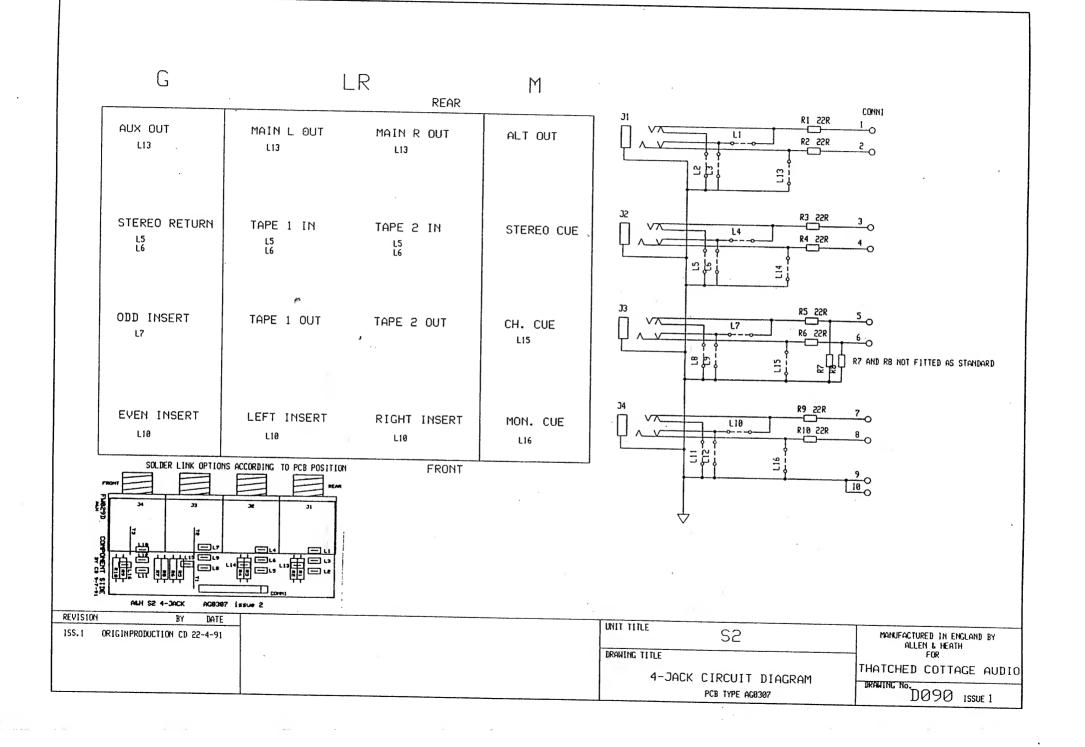


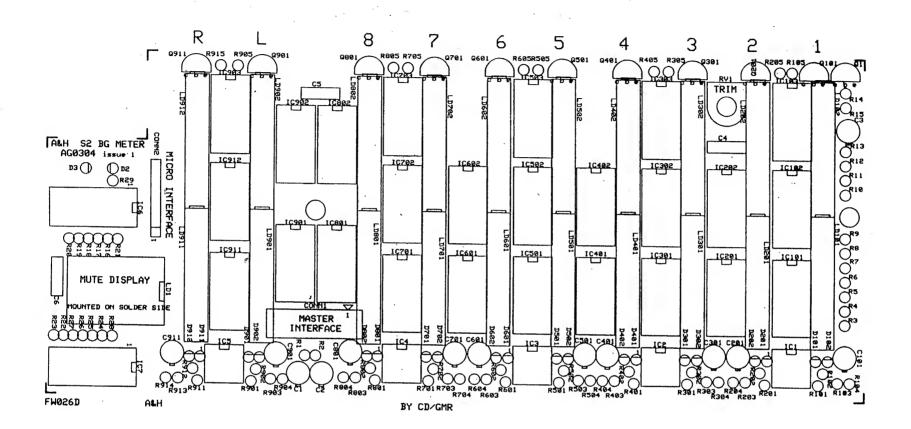


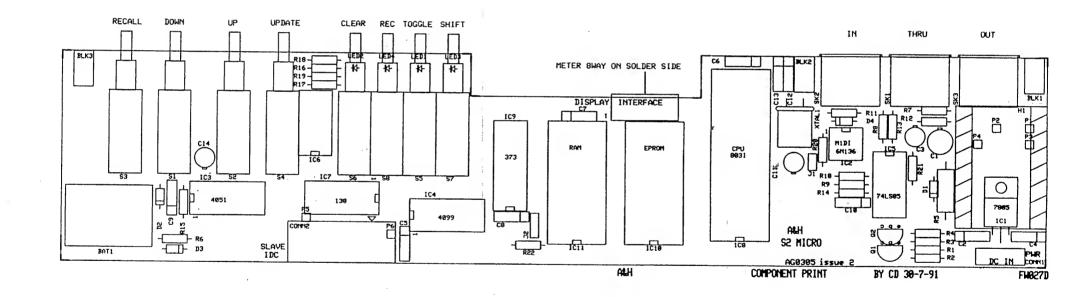


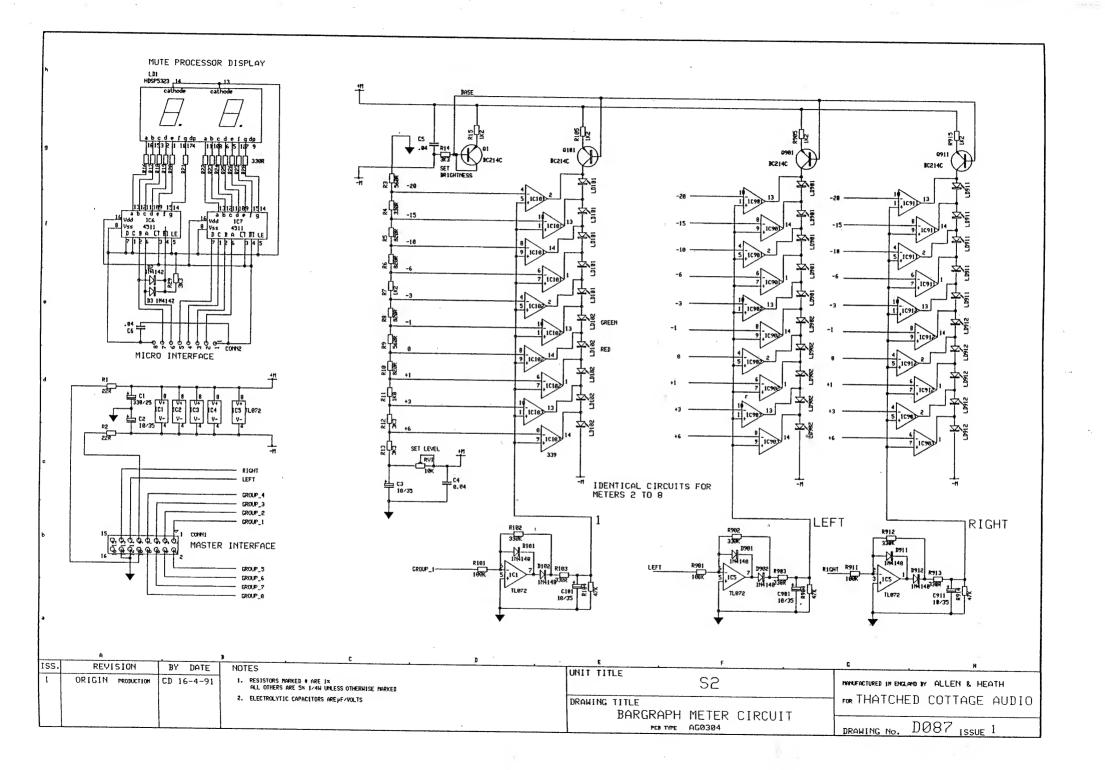


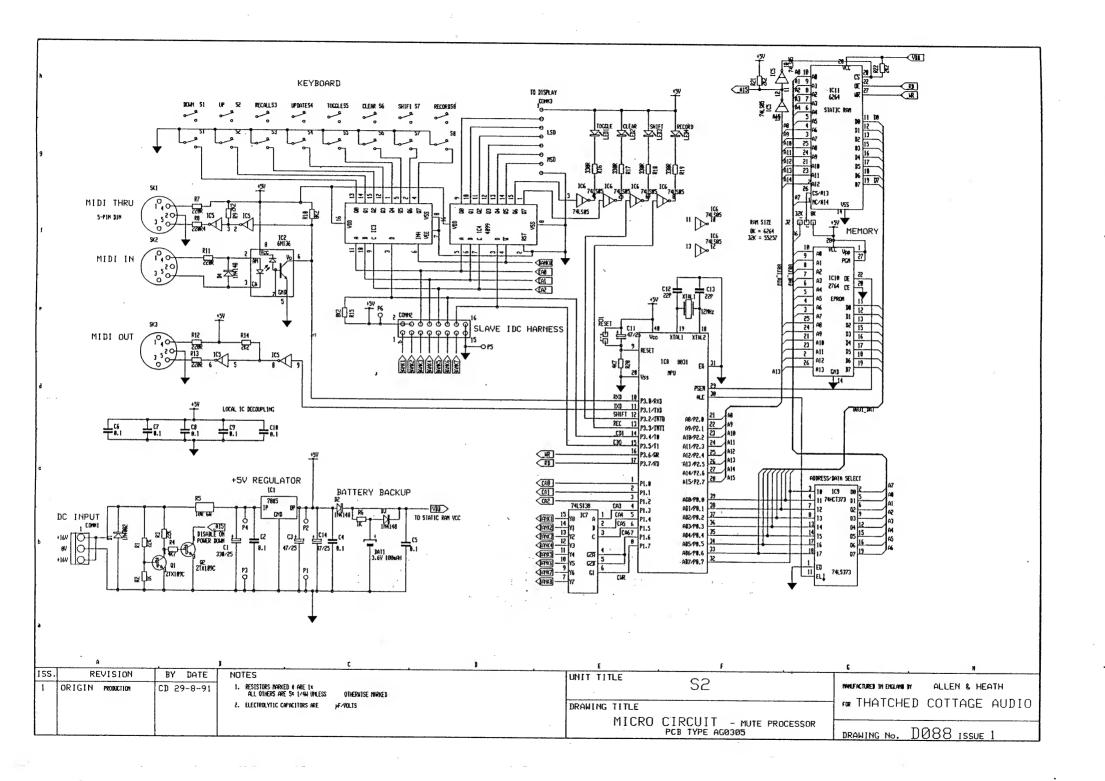


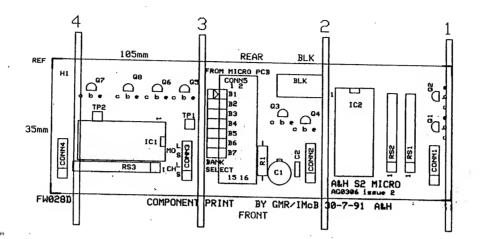


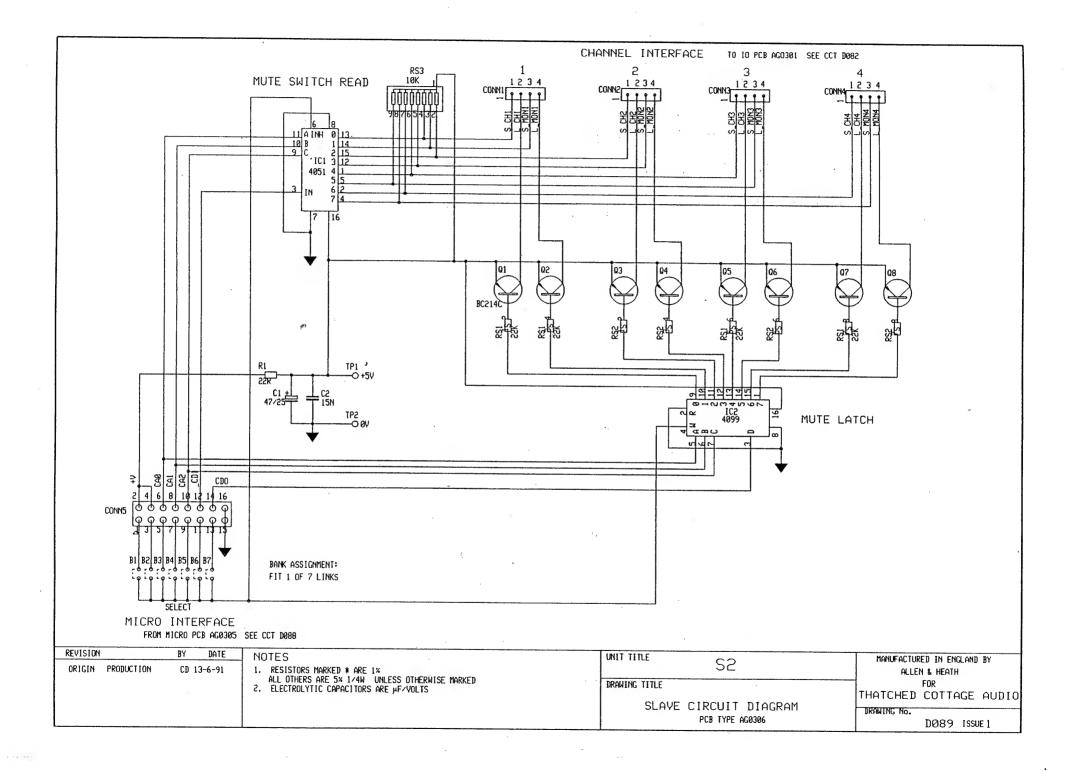












NOTES FOR THE CONSOLE CHANNEL TO MIDI NOTE NUMBER TRANSLATION TABLE (see overleaf)

KEY

-STEINBERG PRO 24

В -AKAI, YAMAHA, KORG, CUBASE, C-LAB EQUIPMENT

-ROLAND EQUIPMENT

I/P -CONSOLE INPUT

MON **CONSOLE MONITOR**

SR -STEREO RETURN

RET -EFFECTS RETURN

AUX -AUX SEND

NOTES

- -CONTROLLER CODE CHANNEL NUMBERS REMAIN THE SAME
- -SABER PA CONSOLES, Monitor column 1-8 denotes, PA GROUP (1-8),
- 9-16, denotes MATRIX (1-8). IGNORE Monitor column 17-24.

THE S2 MIXING CONSOLE

NOTES AND UPDATES

DATE BY DESCRIPTION